KIRISUN

Professional Wireless Communication System Solution Supplier

DIGITAL RADIO

Instruction Manual
V688-02

KIRISUN

Kirisun Communications Co.,Ltd.

No.	Problem	Causes and Solutions
4	No signal	A. The antenna is in poor contact. Please fasten the antenna head. B. The HF amplifier is broken, please change it. C. The squelch level is so high that the squelch cannot be opened. Please reset the squelch level. D. The mixer tube is broken, please change it. E. The FM processing IC is broken, please change it.
5	The transmitting red light is on, but no voice is heard.	A. The power module is broken, so there is no power output. Please change it. B. The microphone is broken, please change it.
6	The receiving green light is on, but no voice is	A. The speaker is broken, please change it. B. the audio amplifier is broken, please change it.

NOTE:

7PIZ–4009–C01A

INSTRUCTION MANUAL

V688-02

Commercial Digital Portable Two-way Radio

　　We are very grateful for your purchasing　　Kirisun　　brand two-way radios produced by Shenzhen Kirisun Electronics Co., Ltd.

　　We believe　Kirisun　two-way radio, which always incorporates the latest technology, can bring great convenience to your life and work.

　　We also believe that the quality and function of　two-way radio can meet your demands for reliable communication.

Notice to the User:

Please read this manual carefully before any operation to this product. When you start to use the product, we deem that you have read carefully about this manual.

◆ The use of the radio must comply with the dealer of the local government. Illegal operation is subject to punishment by fine and/or imprisonment.

◆ In order to avoid the problems caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in the areas where the sign of "Please turn off two-way radio" is posted, such as hospital and other health care centers.

◆For vehicles with an air bag, do not place the radio in the area over an air bag or in the air bag deployment area.

◆ Please turn off the radio before entering into the potentially flammable and explosive atmosphere.

◆ Please do not change the radio's battery or charging into the potentially flammable and explosive atmosphere.

◆ Please turn off the radio near by explosive and thunder area.

◆Please do not use the radio with damaged antenna, which will make light burning in contacting with the skin.

◆ Please make sure the antenna is well installed when using the radio, the radio is easy to damage when transmission without

antenna.

◆ Please make sure the radio is vertically during the transmission, and keep mouth away about 5cm from the microphone.

◆ If you are wearing the radio on the body, please confirm that the antenna is 2.5 cm far away from your body in transmission.

Kirisun Communications Co.,Ltd.

CONTENTS

■ **Unpacking and Checking**

Unpack the radio carefully. We recommend that you check the radio and the supplied accessories listed in the following table before discarding the packing material. If any damage or loss has occurred during shipment, please contact the dealer without delay.

Item	Quantity
Antenna	1
Battery	1
Belt Clip	1
Charger	1
Power Adapter	1
Hand Strap	1
Instruction Manual	1

◆Supplied Accessories
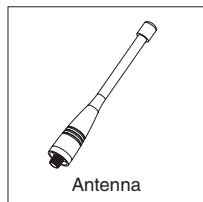
Antenna
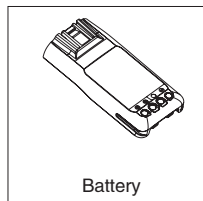
Power Adapter

Battery

Charger
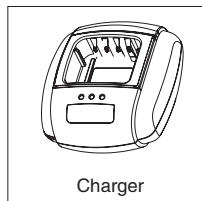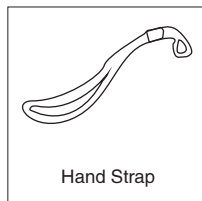

Belt Clip
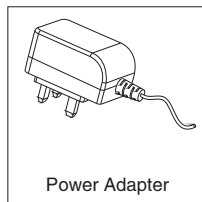
Hand Strap

■ Preparation

◆ Battery Information

Charging Notice

※ The radio's battery is not fully charged before shipment. Before the initial use, please charge the battery. Charging/discharging twice or triple can let the battery volume in the best status. When the battery is in low power, it's need to be charged or change another battery.

※ Please do not let the terminal of battery in short circuit or throw the battery into fire.

※ To make sure the battery can be full charged, please turn off the radio while charging.

※ Please do not put the radio in the charger when it's not need to, charging in cycle will shorten the battery's life time and performance.

※ Do not recharge the battery if it has been fully charged or the radio is not in the low battery alarm state; otherwise, it will shorten the battery's life time and performance.

※ The battery is better to be stayed in room environment about 25℃. The battery is easy to lose efficiency if long stayed under -10℃ environment.

※ If the temperature is higher than 35℃ or lower than -10℃, the electro-discharge will be reduced by the Li battery's physics characters.

◆ Charging the battery

● Battery Charging

Plug the power adapter into an applicable AC outlet and connect the power adapter to the battery charger. The green LED will light up.
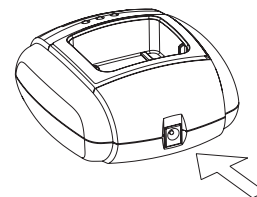
Insert the battery or the radio into the charger slot. Make sure the battery is well connected with the charger. Then the red LED will light up, it indicates that the charging starts. When the LED light green, it indicates the battery has been full charged.
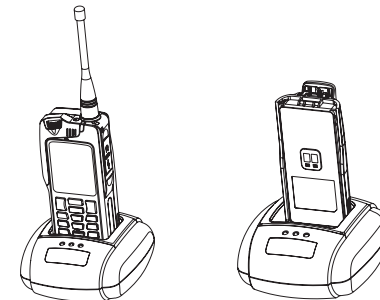
◆ Accessories Installation

● Installing/Removing the Battery

Turn off the radio, install the battery pack with the two slots on the back of the radio, and push forward the battery along the slots until a click is heard. Then the battery is installed. Before moving the battery pack, please check the radio has been turned off and then push the battery latch upwards, and then remove the

battery away from the radio.

Installation:

① Install the two bulges at the bottom of the battery pack with the corresp-onding slots at the rear bottom of the radio.

② Push the top part of the battery towards the radio to lock it until a click is heard.

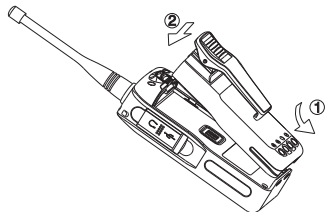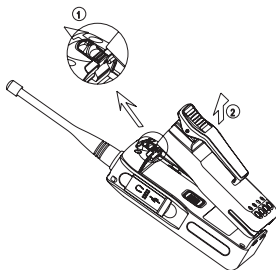**Removing:**

①Make sure the radio has been turned off, and then push the battery latch

upwards.

②Pull up the top of the battery, and then remove it away from the radio.

◆ **Installing/Removing the Antenna**

Hold the base of the antenna and turn the antenna clockwise into the connector on the top of the radio until secure. Otherwise, turn the antenna anti-clockwise and remove it.

Installation:

Hold the base of the antenna and turn the antenna clockwise into the connector on the top of the radio until secure.

Removing:

Hold the base of the antenna and turn the antenna anti-clockwise and remove it
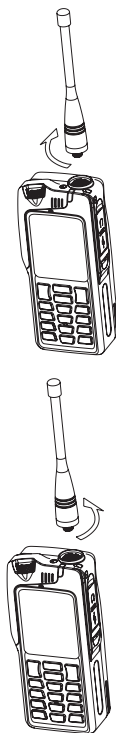
◆ **Installing/Removing the Belt Clip**

Put the grooves of the belt clip correspond to the rear top of the battery. Then press the belt clip downwards until it's tightened.
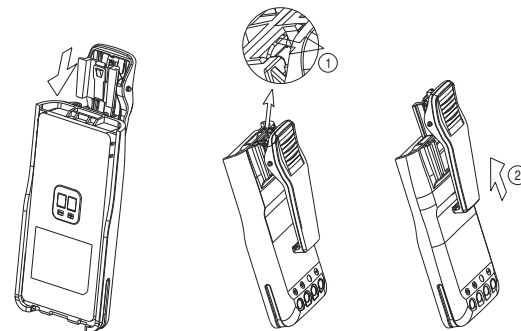
Note:

The belt clip can be only installed before the battery installed.

To remove the belt clip, use your fingernail or a tool to press the belt clip tab away from the battery. Then slide the belt clip upwards to remove it

◆ **Installing the External Speaker/MIC**

Open the cover for external speaker/MIC jacks, and then insert the external speaker/MIC plug into the jacks on the radio.

When the radio is need to be programmed, insert the plug of the programming line into the USB port which is under the MIC.

.
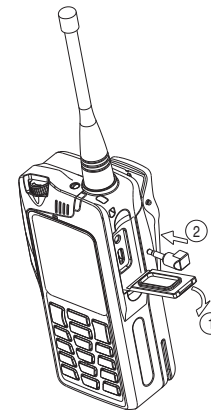
■ Radio overview
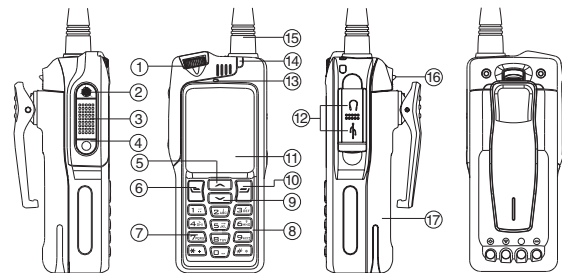
① **Volume Knob**

Rotate the knob to adjust the volume.

② **ON/OFF Key**

Long press the key to turn on/off the radio.

③ **PTT**

Press the key and speak to send a call; release the key to receive the call.

④ **Programmable Key**

The button can be assigned different functions through PC software by dealer. Detailed information refers to the following part "Programmable Key" in this instruction. It's set as keypad lock shortcut key before shipment.

⑤ **Key**

Page up

⑥ **Menu**

Press to go into the menu, and confirm the current item.

⑦ **Digit Keys**

Used to dial numbers, input the messages.

⑧ **Speaker**

⑨ **Key**

Page down

⑩ **Clear Key**

Press to clear operation or go back to previous menu.

⑪ **LCD Display Screen**

Display and indicate the operation status.

⑫ **External Speaker/Earphone Jack**

Used to connect speaker/Earphone, programmable wire connector

⑬ **Microphone**

Voice input

⑭ **LED Indicator**

Indicate the operation status, refers to the following "LED Indicator" in this instruction.

⑮ **Antenna**

⑯ **Battery Lock**

⑰ **Battery Park**

■ Programmable keys

The dealer can reprogram the following keys as function shortcut keys:

Long press or short press are both available: PF key

Short press: ON/OFF key

Long press: Menu key, Cancel key

Remark:

Short press: press the key and release it soon;

Long press: press and hold the key for at least 2 seconds.

Programmable functions:

● None: There's no reaction of the radio for press the key.

● Standby Mode: Return to the standby mode in menu status.

● Powder Level adjust: High/Low power change.

● Call Log: Enter the call log directly

● Monitor: If there's CTCSS in analog mode, the CTCSS will be canceled and switch to carrier squelch mode when press the key.

● Emergency Alarm: Turn on/off the emergency alarm.

● Keypad Lock: Lock/Unlock the keyboard to avoid disoperation. In keypad lock states, only press "PTT" or "Emergency Alarm" key, the radio will has reaction.

● Squelch Turn on/off: Turn on/off the squelch function.

● Squelch Level adjust: Adjust the receipt signal intensity.

● Contacts: Enter to Contacts interface directly to select the contact number.

● Scanning: Turn on/off scanning function.

● Spurious Channel Delete: Delete all the none-selected channels in the scanning list.

● Radio Kill: Kill the target radio

● Radio Revive: Activate the killed radio

● Whisper: Turn on/off whisper function

● VOX: Activate transmitting through voice induction, avoid pressing "PTT".

● Battery monitor: Display the dump power of the battery.

● Upturning: Switch to the precious interface.

● Down turning: Switch to the next interface

■ LCD display screen

Signal Intensity Indication		No signal
		More bars, stronger signal.
Message		There is unread message in the inbox.
		The inbox is full.
Scan		The radio is in scanning status.
Power		Low power
		High power
Keypad Lock		The Keypad is locked.
Squelch Turn off		It's appeared when "Squelch Turn on/off".
Emergency Alarm		The radio is in emergency alarm status, or receives emergency alarm.
VOX		Turn on Voice Induction Transmitting function
Dump Power		Indicates the dump power of the battery
Private Call		Indicates the number is private number
Group Call		Indicates the number is group's number
All Call		Indicates the number is all contacts' number

Call Out		Signal transmitting
Call In		Signal receipting
Call on hold		Call on hold

■ LED Indicator

Red LED lights on: the radio is transmitting

Green LED lights on: the radio is receiving

Red LED flashes: low battery, the battery need to be charged

■ Basic Operation

◆ **Turn on/off radio**

Press the ON/OFF key to turn on or off the radio.

◆ **Adjust the channel**

Press the ▲ Key or ▼ Key to select the channel, if the "Channel Lock" function is open, the channel can't be switched over.

◆ **Adjust the volume**

Rotate Volume Knob to adjust the volume.

◆ **Transmitting**

In digital channel, the transmitting methods are as below:

1.Go into the "Contacts" menu, choose one contact, then press and hold the "PTT", mouth to the MIC and talking.

2.Go into the "Call Log", then go into "Call Out" or "Call In", choose one contact, press and hold the "PTT", mouth to then MIC and talking.

3.In standby mode, press and hold the "PTT", mouth to the MIC and talking, the call out number is the default contact's, which the number can be programmed dealer, or set through menu.

4.In standby mode, input the number manually, then press and hold "PTT", mouth to the MIC and talking.

In analog channel, press and hold on the "PTT" directly, then mouth to MIC and talking.

◆ **Receiving**

The receiving strength will be indicated in the LCD

when the radio is receiving. When it's in digital channel, the radio receives the same channel's Private call, Group call and All call, then the radio will output the voice; when it's in analog channel, the radio receives the current channel's call-in analog signal, and the CTCSS of the call-in analog signal matches with the CTCSS set in the receiving radio, or there's no CTCSS set in the receiving radio, then the radio will output the voice.

◆ **Answering a call**

In digital channel, when the radio receives a call, press and hold on the "PTT", the call can be answered in Call Holding Time. If the call is not answered in Call Holding Time, it's need to recall. The Call Holding Time can be set by dealer.

In analog channel, when the radio receives a call, press and hold on the "PTT" to answer the call directly.
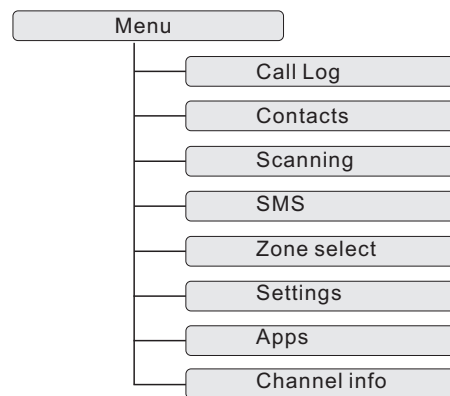
■ **Menu**

Press "Menu" to go into. The menu items in digital are different form in analog. And the items can be chosen by dealer while reprogramming.
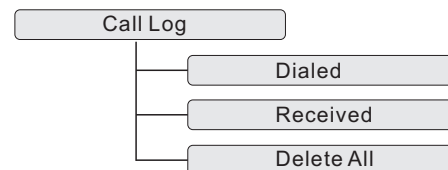
◆ Menu in Digital Channel

In digital channel, the items as below:

The main menu's frame diagram

```
         ┌─────────────────┐
         │      Menu       │
         └─────────────────┘
            │  ┌─────────────────┐
            ├──│    Call Log     │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│    Contacts     │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│    Scanning     │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│      SMS        │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│   Zone select   │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│    Settings     │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│      Apps       │
            │  └─────────────────┘
            │  ┌─────────────────┐
            └──│  Channel info   │
               └─────────────────┘
```

Call log

Press "Menu", choose and press "Call log". Or, press the shortcut key to go into "Call log"

```
         ┌─────────────────┐
         │    Call Log     │
         └─────────────────┘
            │  ┌─────────────────┐
            ├──│     Dialed      │
            │  └─────────────────┘
            │  ┌─────────────────┐
            ├──│    Received     │
            │  └─────────────────┘
            │  ┌─────────────────┐
            └──│   Delete All    │
               └─────────────────┘
```

The radio can record the call in and call out log, if the call log volume is full, the earliest log will be covered and disappeared.

Go into **"Dialed"** or **"Received"**, choose one contact and act as follows: send a call, check the detailed information, add the contact, send a Radio check, set as the default contact, delete.

If the radio's **"Radio Kill"**, **"Radio Revive"** is set open by dealer, user can also send **"Radio Kill"** and **"Radio Revive"** to the contact.

Press **"Delete All"** and delete all the call logs.

● **Detailed information:**

User can check and review and detailed information of log.

● **Add a contact:**

User can choose a number in call log and add it into contact's list.

● **Radio check:**

User can check the contact's status (only private call contact) to make sure if the contact's radio is power on or in the current channel without bothering that person.

● **Radio Kill:**

User can send a Radio Kill to the contact (only private call contact), let that radio useless.

● **Radio Revive:**

User can send a Radio Revive to the contact (only private call contact), let the radio returns to normal function.

● **Set as default contact:**

The default contact can be called directly by press **"PTT"**. Each channel can set one default contact. The number can be set by dealer through programming or set in the menu.

● **Delete:**

Delete the call logs.

Contacts

Press **"Menu"**, choose and then press **"Contact"** to go into. There are **"Found Contact"** and **"Contacts List"** submenu.

● **Contacts List:**

User can go into the **"Contact List"** through **"Contact"** menu or the shortcut key. The **"Contact list"** can be edited by dealer's programming or input manually. Manual input can only operated in private contact list.

Go into **"Contact List"**, choose one contact, it can be acted as follows: press and hold on **"PTT"** to send a call, check the detailed information, send a Radio check, set as defaulted contact, edit, delete.

If that radio's **"Radio Kill"**, **"Radio Revive"** is set open by dealer, user can also send **"Radio Kill"** and **"Radio Revive"** to the contact.

About Radio check, set as default contact, Radio Kill,

Radio Revive these functions' operation, it can refer to the statement of "Call Log". And the other' functions as below:

Detailed information:

User can check the contact's name, number, and calling type.

Edit:

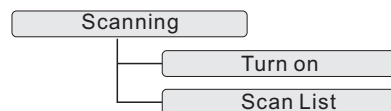User can edit the contact's name, number, and calling type.

Delete:

Delete this contact's log.

● **Found a contact:**

You can found a contact into the "Contact List", the largest contact number can be input seven digits.

Scanning

Press "Menu", choose and press "Scan" to go into.

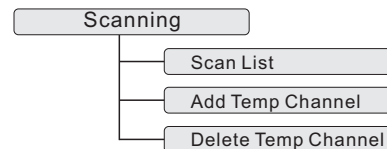| Scanning |
| --- |
| Turn on |
| Scan List |

● **Turn on:**

In order to receive calls from different channels, the radio can be programmed to scan these channels. Press the button to start scanning, and press "Clear" key to stop scanning.

● **Scan List:**

Each channel can be related to a "Scan List" by dealer's programming. Only the channel which is related to a "Scan List" can start scanning. And each "Scan List" includes 16 channels the most, with both digital and analog channel. With this function, the channel included in the "Scan List" of the current used channel can be checked, added or delete. Attention: if the channel included in the "Scan List" is changed, the other channels which related to the "Scan List" will be influenced.

In scanning status, press "Menu" key, the following will be displayed:

| Scanning |
| --- |
| Scan List |
| Add Temp Channel |
| Delete Temp Channel |

● **Add/Delete Temp Channel**

During scanning, if it's stopped at a non-necessary channel, such as: channels interference, the non-necessary channel can be deleted by "Delete Temp Channel" function, and then scanning continues. And also, customer can add a channel by "Add Temp Channel" function.

After quit scanning mode, the temporarily added or deleted channel is invalid.

SMS

Press **"Menu"**, choose and press **"SMS"** to go into.

SMS
New SMS
Shortcut SMS
Inbox
Outbox
Drafts
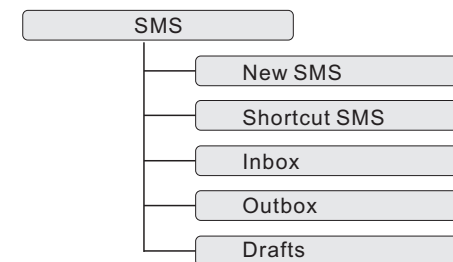
● **New SMS:**

You can write a new message to send, the contact can be chosen from "Contact List". It can also be saved into Drafts, and the shortcut message can be inserted while writing a new message.

● **Shortcut SMS:**

There are several shortcut messages edited by dealer, you can send out anyone if you like.

● **Inbox:**

The inbox stores the received messages. If there's a new message, ✉ will be displayed in the standby interface; if the inbox is full, ✉ will be displayed. If the inbox is full, the earliest received messages will be covered and disappeared. Any message can be operated as followings: check the detailed information, reply, forward and delete. Delete all messages in the inbox steps: Inbox ->inbox list->delete all.

● **Outbox:**

The outbox stores the sent messages. If the outbox is full, the earliest sent messages will be covered and

disappeared. Delete all messages in the outbox steps: Outbox ->outbox list->delete all.

● **Draft-box**

The draft-box stores the draft messages. If the draft-box is full, the earliest draft messages will be covered and disappeared. Any message can be operated as followings: send, edit and delete. Delete all messages in the draft-box steps: SMS ->Draft-box->delete all.

Zone Select

A group of communication channels makes up a zone. You can choose the zone you want through this menu.

Settings

The radio's working parameter can be set by customer's demand, which include power, Noise level, Voice control, whisper, Key lock, Channel lock, Alert tone set, backlight, display main menu, sleep mode and language.

Settings

- Power
- Noise Level
- Voice Control
- Whisper
- Key Lock
- Channel Lock
- Alert tone set
- Back light
- Main Window
- Sleep Mode
- Language
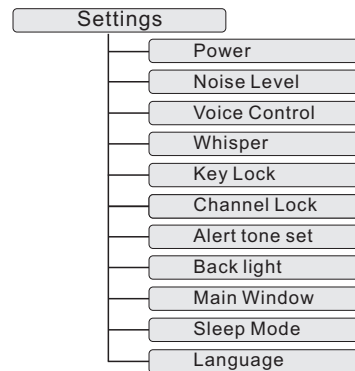
● **Power:**

The current used channel's power can be set High Power or Low Power. High power is useful for long distance communication, but the battery's working time will be less. **H** means high power, **L** means low power. Each channel's power level can be set separately.

● **Noise Level:**

The radio's noise level can be set from 0 to 9. If the noise level is higher, the radio is affected less by noise or other

signal, but harder to receive weak signal. If the noise level is lower, the radio is easier to receive weak signal, but also easier affected by noise or other signal.

● **Voice control:**

Voice control means that the radio starts transmitting by voice induction. User can set the voice control on/off, and the voice sensitivity can be set from 1 to 5. The sensitivity is higher, the demand voice volume is lower, but easier affected by noise.

● **Whisper:**

User can set whisper on/off here. Whisper function can let the other side heard clearly even if speak in a low voice to MIC. It can also be set by "whisper" shortcut key.

● **Key Lock**

User can set key lock on/off here. If the function has been turn on, the keypad will be locked automatically. And only "PTT", Emergency Alarm button and Key Lock have reaction.

● **Channel Lock:**

User can set Channel lock on/off here. If the Channel Lock

has been turned on, the channel can't be switched.

● **Alert tone set:**

User can turn on/off the alert tone.

● **Backlight:**

User can set backlight status: Open, Close and Delay the closure. Open: the backlight light all the time; Close: the backlight shut off all the time; Delay the closure: the backlight light while pressing the keys and shut off after no action for some seconds.

● **Display main-menu**

User can set the display of main-menu which include channel number, channel frequency, channel name, district number and district name.

● **Sleep mode**

User can set sleep mode on/off here. This function can extend the battery's working time.

● **Language:**

There are "Chinese" and "English" can be chosen.

Radio's Own Information

The radio's following information can be checked: the radio's number, model name, firmware version, data version and frequency range.

● **Menu in Analog channel**

If it's in analog channel, there are scanning, channel information, setting, and the radio's own information in main-menu. In which scanning, setting and the radio's own information are the same in digital channel. (Refers to: Menu in digital channel)

The current channel's frequency and CTCSS can be checked through checking channel's information function.

■ Functions and Operations

◆ **Keypad Lock**

If the keypad is locked, the keys have no reaction except "PTT", "Emergency Alarm" shortcut key and "Key Lock". Thus, it can avoid changing the current channel and working status unconsciously.

Long press "Key Lock" to lock the keypad, and also long press "Key Lock" or " * " to clear it. User can turn on this function following these stops: "Setting"→"Key Lock"→"On".

◆ **Channel Lock**

To avoid changing the current channel unconsciously, user can follow this step to open channel lock: "Setting"→"Channel Lock"→"On". Thus, there's no reaction for pressing "Up" and "Down" keys, the other keys are effective.

◆ **Overtime Forbidden**

This function forbids user to occupy the channel for a long time. If the continuous transmitting time exceeds the setting time by dealer, then, the radio will be warned and transmitting stopped. Release "PTT" to stop the warning tone. It's need to wait for sometime, the time can set by dealer, and transmitting can be sent again. And dealer can set alert function before warning tone.

◆ **Channel Scanning**

Press the button set as "Scan" to start scanning. While in scanning, the radio checks every channel in the scan list and stops on which a signal is detected. There are time-controlled and carrier-controlled scanning, dealer can set one to start scanning again.

● **Time-controlled scanning**

While in scanning, the radio checks and stops on a channel for sometime, which the time can be set by dealer. Then, the radio will star scanning again no matter the channel is busy or not.

● **Carrier-controlled scanning**

While in scanning, the radio checks and stops on a channel for sometime, which the time can be set by dealer. The radio will start scanning again until the channel is not busy.

● Press "scan" → "Open scan" to start, the radio scans according to the current "Scanning List", press "Clear" or "Scan" to stop.

• Carrier-controlled scanning

While in scanning, press "PTT" can let the radio to transmit in a defaulted channel. The channel can be programmed by dealer.

◆ **SMS:**

Go into "SMS", there are edit, send, receive, answer, forward, delete functions.

● **Shortcut SMS**

Go into "SMS" →" Shortcut SMS", there are some shortcut SMS can be sent. The operation of shortcut SMS are the same with normal SMS. The shortcut SMS are edit by dealer.

● **VOX function**

VOX function means the radio can auto- transmit by gaining the voice signal. Go into VOX function through "Setting"→"VOX", you can set the Gain Level, and then, VOX will be displayed on LCD. At this moment, you can talk without press "PTT", and the radio returns back to receiving status automatically.

● **Kill Off/Kill Revive**

If dealer release this function, users can send out Kill Off signal to one radio, then the radio can't transmit or receive other signal except receiving Kill Revive signal. Kill Revive function can let the radio returns to normal function. Sending out Kill Off/Kill Revive signal steps refers to the above chapter: "Menu in Digital Mode"→ "Call Log" and "Menu in Digital Mode" → "Contact".

◆ **Emergency Alarm**

If enabled and the user is in danger, the user can send out a confirmed emergency alarm signal and an emergency voice to the administrator user.

The radio alarm method supports the following two parts: alarm type, which defines the voice and light reaction when the radio gives an alarm; alarm mode, which defines the content sent to the other members when the radio gives an alarm. The above parameters can be programmed by dealer.

◆ **Alarm Type:**

● None: No alarm function (Default);

● Whistle: Only whistling on the radio itself;

● Routine: Voice and light alert in alarm status, the radio can receive the signal from others;

● Confidential: No alerting voice and light, the radio can't receive the signal from others;

● Confidential with voice alert: No alerting light, the radio can receive the signal from others.

◆ **Alarm Mode:**

●Emergency Alarm: Emergency alarm starts, the radio send out an emergency alarm, then, exit the emergency alarm status automatically.

●Emergency Alarm + Emergency Call: The radio sends out an emergency alarm, press"PTT" to send out emergency call.

● Emergency Alarm + Sending out background sound automatically: the radio send out an emergency alarm, then send out emergency call with background sound periodicity and automatically.

Remark:

Emergency Alarm: The radio sends out a signal to alert other member's radio.

Emergency Call: Emergency Call has priority in the channel, to make sure the transmitting successfully at emergency status.

● **Working Specialty Setting**

Users can set the radio's working specialty parameter, please refers to the chapter "Menu in Digital Mode"→ "Setting".

■ **Troubleshooting**

No.	Problem	Causes and Solutions
1	The radio cannot be switched on or no display after being switched on.	A. The battery and the radio are not reliably connected. Please reinstall the battery. B. The fuse of the power supply is burnt out. Please change it. C. The power switch is in failure. Please change it. D. The battery is out of power, please recharge it or change it. E. The CPU is broken, please change it.
2	Phase lock loop unlocked (Beeping)	A. The channel frequency setting is out of range, please reset the channel data. B. The crystal oscillator of phase lock loop is broken, please change it. C. The oscillating tube is broken, please change it. D. The phase lock loop IC is broken, please change it.
3	Cannot transmit	A. The frequencies of both users are not the same. Please select the same frequency channel again. B. The CTCSS/DCS signals of both users are not the same. Please reset it. C. The radio is out of effective communica- tion range.